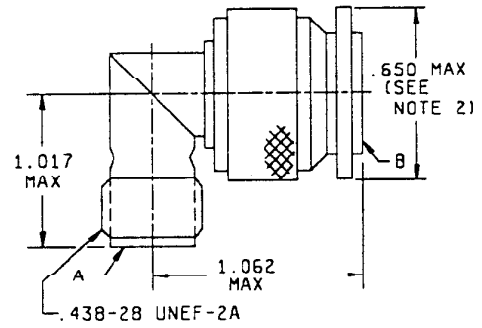
NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

PERFORMANCE SPECIFICATION

ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY, (WITHIN SERIES TNC) RIGHT ANGLE, MALE TO FEMALE

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the connector adapter described herein shall consist of this document and the latest issue of Specification MIL-PRF-55339.

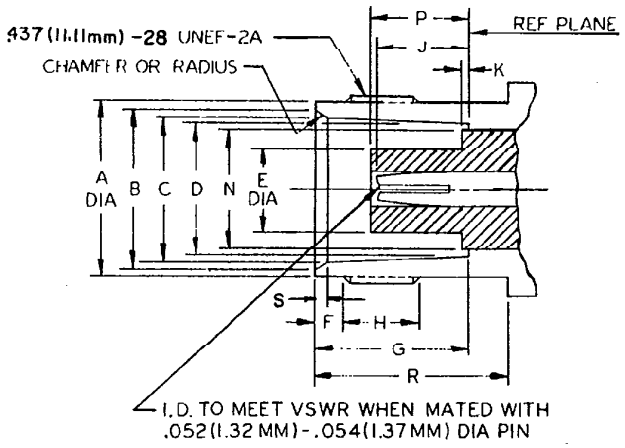


Reference	Series	Contact	Figure
A	TNC	Socket	2
B	TNC	Pin	3

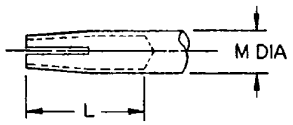
Inches	mm
.438	11.13
.650	16.51
1.017	25.83
1.062	26.97

NOTES:
1. Dimensions are in inches
2. This dimension is the largest overall diameter of the connector..
3. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
4. Shape of coupling nut is optional.

FIGURE 1. General configuration.



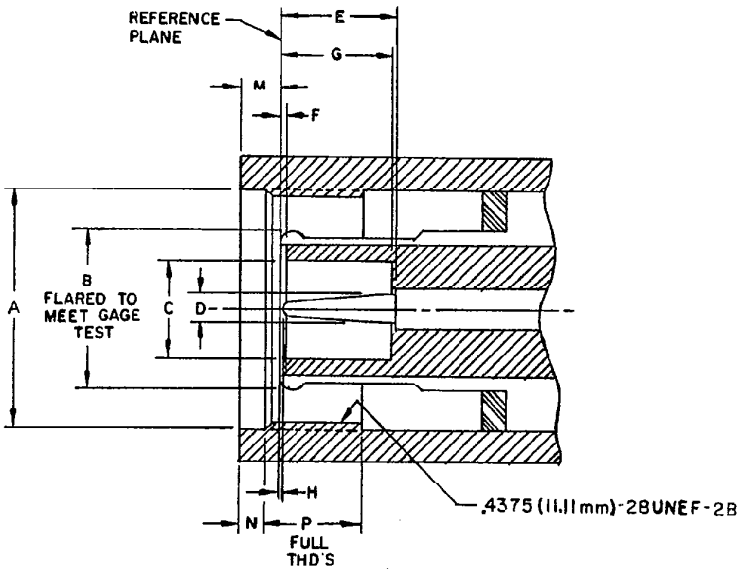
Ltr	Dimensions in inches with metric equivalents (mm) in parentheses (see note)		
	Minimum		Maximum
A	.378	(9.60)	.381 (9.68)
B	.345	(8.76)	.356 (9.04)
C	.327	(8.31)	.333 (8.46)
D	.319	(8.10)	.321 (8.15)
E			.186 (4.72)
F	.068	(1.73)	.088 (2.24)
G	.329	(8.36)	.333 (8.46)
H	.187	(4.75)	
J	.186	(4.72)	.206 (5.23)
K			.006 (.15)
L	.195	(4.95)	
M	.081	(2.06)	.087 (2.21)
N			.256 (6.50)
P	.188	(4.78)	.208 (5.28)
R	.415	(10.56)	
S	.015	(.38)	.030 (.76)



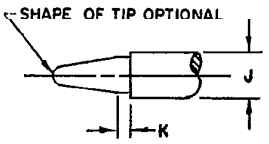
*N dimension applies to that portion (if applicable) of the dielectric which protrudes beyond the metal shoulder (or reference plane) by dimension K.

NOTES:
1. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
2. All undimensioned pictorial configurations are for reference purposes only.

FIGURE 2. Mating dimensions for female terminations.



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.440 (11.18)	
B	Gage test	
C	.190 (4.83)	
D	.052 (1.32)	.054 (1.37)
E	.210 (5.33)	.230 (5.84)
F	.006 (.15)	
G	.208 (5.28)	.228 (5.79)
H	.003 (.08)	.040 (1.02)
J	.081 (2.06)	.087 (2.21)
K	.078 (1.98)	
M		.078 (1.98)
N	.063 (1.60)	
P	.156 (3.96)	



NOTES:
1. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
2. Three holes .027 (.69 mm) minimum diameter equally spaced for safety wiring. Location on coupling nut optional.
3. All undimensioned pictorial configurations are for reference purposes only.

FIGURE 3. Mating dimensions for male terminations.

DESIGN AND CONSTRUCTION:

General configuration: See figure 1.

Impedance: 50 ohms, nom.

Working voltage: Sea level - 500 Vrms.
70,000 feet - 125 Vrms.

Frequency range: 0 to 11 GHz.

Temperature range: -65° to +165°C.

PERFORMANCE (installation torque is not applicable).

Dimensions: See figures 1, 2, and 3.

Center contact retention: Axial force - 6 lb, min.
Torque - 4 in. oz, min.

Force to engage and disengage: Longitudinal force - Not applicable.
Torque - 2 in. lb, max.

Mating characteristics:
Center contact (socket):
Oversize test pin dia - .057 in., min.
Insertion depth - .125 in., min.
No. of insertions - 1.
Max test pin (insertion force test):
Steel test pin dia - .054 in., min.
Pin finish - 16 microinches.
Insertion force - 2 lb, max.
No. of insertions - 1.
Min test pin (withdrawal force):
Steel test pin dia - .052 in., max.
Pin finish - 16 microinches.
Withdrawal force - 2 oz, min.
No. of withdrawals - Not applicable.
Outer contact:
Min test ring ID - .319 in., max.
Pin finish - 16 microinches.
Insertion force - 5 lb, max.
Insertion depth - .093 in., min.
No. of insertions - Not applicable.
Max test ring ID - .324 in., min.
Test ring finish - Not applicable.
Insertion depth - .031 in., max.
No. of insertions - 1.

Permeability: <2.0.

Seal:
Pressurized - Not applicable.
Weatherproof - Not applicable.

Insulation resistance: 5,000 megohms, min.

VSWR: 1.45 max at .5 to 11 GHz.

RF leakage (total): Not applicable.

RF insertion loss: .3 dB, min, 9 GHz, min.
$(.144\sqrt{F\ (GHz)})$ dB max tested at 3 GHz).

Durability: 500 cycles minimum at 12 cycles/min maximum. The connector shall meet the mating characteristics and force to engage and disengage requirements.

Dielectric withstanding: Test voltage - 1,500 Vrms, min (sea level).

Contact resistance (milliohms, max):

Contact	Initial	After
Center	2.5	3.0
Outer	0.5	Not applicable

Vibration, high frequency: Interruptions - 1 µs, max.

Shock: Test condition I.

Thermal shock: Test condition C.

Moisture resistance: 200 megohms, min.

Corona level: Voltage - 375 V, min.
Altitude - 70,000 feet, min.

RF high potential withstanding voltage: RF voltage - 1,000 Vrms, min.
Frequency - 5 MHz, min.

Salt spray (corrosion): Test condition B.

Coupling mechanism retention force: 100 lb, min.

MARKING: As specified in MIL-A-55339.
Part No. M55339/32-00001.

Custodians:
Army - EL
Navy - EC
Air Force - 85

Review activities:
Army - MU, MI, EL, AT
Navy - SH
Air Force - 11, 99
DSA - ES

User activities:
Army - AT, MU
Navy - AS, MC
Air Force - 19

Preparing activity:
Army - EL

Agent:
DSA - ES

(Project 5935-2017-8)